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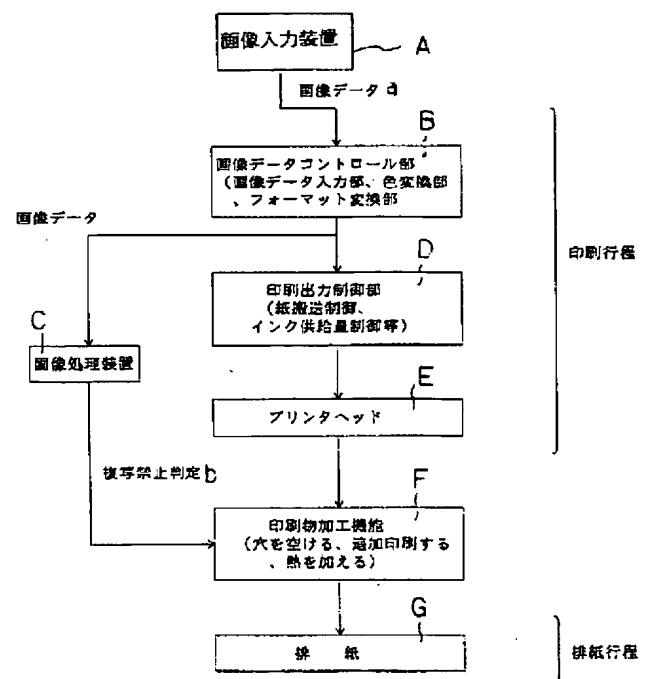
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(54) 【発明の名称】 画像出力装置および方法ならびにその応用装置

(57) 【要約】

【目的】 特定画像の複製や違法電送を防止する。

【構成】 画像入力装置Aの画像データaを受けた画像データコントロール部BでプリンタヘッドEを制御するとともに、画像処理装置Cは入力画像データaの画像複製禁止判定bにもとづき、正常な画像出力を禁止させる手段Fにより特定画像の複製や違法電送を防止する。



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## 【特許請求の範囲】

【請求項 1】 特定の画像パターンの出力を禁止する画像出力装置であって、正常な画像出力を禁止させる手段を有することを特徴とする画像出力装置。

【請求項 2】 出力紙を穿孔する穿孔手段を有することを特徴とする請求項 1 に記載の画像出力装置。

【請求項 3】 出力紙に追加印刷する印刷手段を有することを特徴とする請求項 1 に記載の画像出力装置。

【請求項 4】 感熱紙を加熱する加熱手段を有することを特徴とする請求項 1 に記載の画像出力装置。

【請求項 5】 出力紙に対する印刷濃度を順次薄くする印刷手段を有することを特徴とする請求項 1 に記載の画像出力装置。

【請求項 6】 追加印刷に警報印字を付加する印刷手段を有することを特徴とする請求項 3 または 5 に記載の画像出力装置。

【請求項 7】 複数種の警報を印字する印刷手段を有することを特徴とする請求項 6 に記載の画像出力装置。

【請求項 8】 特定の画像パターンの出力を禁止する画像出力方法であって、正常な画像出力の禁止工程を有することを特徴とする画像出力方法。

【請求項 9】 印刷工程から排紙工程間に出力紙を穿孔する工程を有することを特徴とする請求項 8 に記載の画像出力方法。

【請求項 10】 印刷工程から排紙工程間に出力紙に追加印刷する印刷工程を有することを特徴とする請求項 8 に記載の画像出力方法。

【請求項 11】 印刷工程から排紙工程間に感熱紙を加熱する加熱工程を有することを特徴とする請求項 8 に記載の画像出力方法。

【請求項 12】 印刷工程から排紙工程間に出力紙に対する印刷濃度を順次薄くする印刷工程を有することを特徴とする請求項 8 に記載の画像出力方法。

【請求項 13】 追加印刷に警報印字を不規則に付加する印刷工程を有することを特徴とする請求項 10 または 12 に記載の画像出力方法。

【請求項 14】 複数種の警報を印字する印刷工程を有することを特徴とする請求項 13 に記載の画像出力方法。

【請求項 15】 請求項 1 ないし 5 のいずれかに記載の画像出力装置を具備したことを特徴とするプリンタ。

【請求項 16】 請求項 1 ないし 5 のいずれかに記載の画像出力装置を具備したことを特徴とするファクシミリ。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】 この発明は、たとえば偽造や外部漏洩が禁止されている紙幣、有価証券および機密書類などの特定の原稿画像の複製や違法電送を防止する真偽判定機能をもった画像出力装置および方法ならびにその応

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用装置に関するものである。

## 【0002】

【従来の技術】 従来、この種の画像出力装置として、特定原稿の画像データを検出し、予め登録された画像データ辞書との同一性や類似度合いを比較してパターン照合し、特定原稿の真偽を判別装置で判定して偽造や違法電送を防止しようとするものが知られている（特開平 2-210591号公報および特開平 4-227365号公報参照）。

## 【0003】

10 【発明が解決しようとする課題】 ところで、上記判別装置はフルカラーの多値画像データをパターン照合するとともに、色成分や色分布をも判定基準とするものであり、たとえばプリンタなどの画像形成装置から疑似階調や疑似中間階調で出力される画像データ、ならびにパソコンなどの画像出力装置でもって多値画像データを疑似階調や疑似中間階調に変換して出力される画像データに対し、これらを判別できないために、特定画像の複製や違法電送を許容するおそれがある。

20 【0004】 したがって、この発明の 1 つの目的は、特定画像の複製や違法電送を防止することができる画像出力装置を提供することを目的とする。この発明の他の目的は、特定画像の複製や違法電送を防止することができる画像処理方法を提供することを目的とする。この発明のさらに他の目的は、疑似階調化された画像データの真偽を判別する画像出力装置および方法が適用されたプリンタやファクシミリなどの応用装置を提供することを目的とする。さらに、この発明の他の目的は、後述する実施例において詳述する。

## 【0005】

30 【課題を解決するための手段】 請求項 1 の発明は、特定の画像パターンの出力を禁止する画像出力装置であって、正常な画像出力を禁止させる手段を有することを特徴とする。請求項 2 の発明による画像出力装置は、出力紙を穿孔する穿孔手段を有することを特徴とする。請求項 3 の発明による画像出力装置は、出力紙に追加印刷する印刷手段を有することを特徴とする。請求項 4 の発明による画像出力装置は、感熱紙を加熱する加熱手段を有することを特徴とする。

【0006】 請求項 5 の発明による画像出力装置は、出力紙に対する印刷濃度を順次薄くする印刷手段を有することを特徴とする。請求項 6 の発明による画像出力装置は、追加印刷に警報印字を付加する印刷手段を有することを特徴とする。請求項 7 の発明による画像出力装置は、複数種の警報を印字をする印刷手段を有することを特徴とする。

【0007】 請求項 8 の発明は、特定の画像パターンの出力を禁止する画像出力方法であって、正常な画像出力の禁止工程を有することを特徴とする。請求項 9 の発明による画像出力方法は、印刷工程から排紙工程間に出力紙を穿孔する工程を有することを特徴とする。請求項 1

0の発明による画像出力方法は、印刷工程から排紙工程間に出力紙に追加印刷する印刷工程を有することを特徴とする。請求項11の発明による画像出力方法は、印刷工程から排紙工程間に感熱紙を加熱する加熱工程を有することを特徴とする。

【0008】請求項12の発明による画像出力方法は、印刷工程から排紙工程間に出力紙に対する印刷濃度を順次薄くする印刷工程を有することを特徴とする。請求項13の発明による画像出力方法は、追加印刷に警報印字を不規則に付加する印刷工程を有することを特徴とする。請求項14の発明による画像出力方法は、複数種の警報を印字する印刷工程を有することを特徴とする。請求項15の発明によるプリンタは、請求項1ないし5のいずれかに記載の画像出力装置を具備したことを特徴とする。請求項16の発明によるファクシミリは、請求項1ないし5のいずれかに記載の画像出力装置を具備したことを特徴とする。

#### 【0009】

【作用】この発明による装置および方法によれば、特定の画像パターンの出力禁止を検出するまでの間において、既に正常な文字印刷などの画像出力を開始している場合であっても、正常な画像出力を禁止させる手段および工程を有することによって、特定画像の複製や違法電送を有効に防止することができる。上記正常な画像出力の禁止手段としては、出力紙に穿孔する穿孔手段、出力紙に追加印刷する印刷手段、感熱紙を加熱する加熱手段、出力紙に対する印刷濃度を順次薄くする印刷手段、追加印刷に警報印字を付加する印刷手段、複数種の警報を印字する印刷手段などである。

【0010】上記正常な画像出力の禁止工程としては、印刷工程から排紙工程間において、出力紙を穿孔する工程、追加印刷する印刷工程、感熱紙を加熱する加熱工程、出力紙に対する印刷濃度を順次薄くする印刷工程、追加印刷に警報印字を不規則に付加する印刷工程、複数種の警報を印字をする印刷工程などである。この発明に係るプリンタによれば、たとえば紙幣や有価証券などの複製を有効に防止することができる。この発明に係るファクシミリによれば、たとえば機密書類などの特定原稿の違法電送を有効に防止することができる。

#### 【0011】

##### 【実施例】

実施例1：以下、この発明の実施例を図面にしたがって説明する。図1はこの発明による画像出力装置の一例を示すブロック図である。同図において、Aは画像入力装置、Bは画像データコントロール部、Cは画像処理装置、Dは印刷出力制御部、Eはプリンタヘッド、Fは印刷物加工機能部、Gは廃紙部である。

【0012】上記画像入力装置Aは、たとえば疑似階調や高階調の画像データを出力するものであり、画像データコントロール部Bは画像データ入力部、色変換部およ

びフォーマット変換部を有し、上記画像入力装置Aからの画像データaを受けて、画像処理装置Cおよび印刷出力制御部Dに出力する。上記画像入力装置Aからの画像データaを受けた画像データコントロール部Bは、プリンタヘッドEの制御でもって、たとえばフルカラー多値画像の形状や色調を忠実に再現しながら正常な印刷を順次遂行するように構成されている。他方、上記画像処理装置Cは、内蔵された画像データ辞書とのパターン照合で上記入力画像データaの真偽を常時判別するとともに、上記画像データaの真偽判定にかかわらず、上記印刷工程Hにおける正常な印刷動作を遂行させる構成である。上記印刷工程Hにおいて、画像処理装置Cが内蔵の画像データ辞書とのパターン照合を行ない、上記入力画像データaから画像全体における形状や色特性を判別し、正常な画像出力を禁止する特定原稿であると判定された場合、画像複写禁止判定bにもとづき、印刷禁止工程における印刷物加工部Fで、印刷中の印刷物に所定の加工を加え、廃紙工程における廃紙部で印刷物は廃棄処分される。

【0013】図2はこの発明による画像出力装置の一例を示す概略的な側面図である。同図で示すように、原稿Mの搬送ラインLに沿ってローラセットM、プリンタヘッドE、印刷物加工部Fおよび廃紙部Gがそれぞれ配設されている。上記プリンタヘッドEは、プリンタヘッド1とこれに対向配設されたドラム2からなり、ローラセットMで搬送ラインLに沿って搬送過程にある被印刷物Kに前述したフルカラー多値画像の正常な印刷がなされるように構成されている。また、上記印刷物加工部Fは、上記プリンタヘッドEで被印刷物Kに印刷された出力紙である印刷物K1にせん孔を施すせん孔機4を上記プリンタヘッドEの後段に配設して構成されている。

【0014】いま、上記プリンタヘッドEがプリンタヘッド1とドラム2とで、画像入力装置Aからの画像データaを受けた画像データコントロール部Bの制御でもって、たとえばフルカラー多値画像の形状や色調を忠実に再現しながら被印刷物K、たとえば白紙に正常な印刷が行なわれて印刷物K1の複製過程において、上記画像処理装置Cが、内蔵された画像データ辞書とのパターン照合で上記入力画像データaの真偽を判別し、正常な画像出力の禁止原稿であると判定した場合、複写禁止判定bにもとづき（図1）、上記印刷物K1に印刷禁止工程Iにおけるせん孔機4でもってせん孔を施し、このせん孔処理された印刷物K12を後段の廃棄工程Jにおける、たとえば廃棄物受け4に貯留されて廃棄部Gで廃棄処分にされる。

【0015】上記印刷物加工部Fは、プリンタヘッドEで被印刷物Kに印刷された印刷物K1に追加印刷する印判機5（図3）、プリンタヘッド6とドラム7（図4）、およびヒートローラ8、8（図5）であってもよく、上記印判機5や、プリンタヘッド6とドラム7で上

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記印刷物K1に「見本」などの文字を追加印刷したり、ヒートローラ8、8を通過する感熱紙を加熱して偽造印刷物を廃棄処分にし、その複製を防止する。

【0016】実施例2：図6はこの発明による画像出力装置の他の例を示すブロック図である。同図において、Aは画像入力装置、Bは画像データコントロール部、Cは画像処理装置、Dは印刷出力制御部、Eはプリンタヘッドである。

【0017】上記画像入力装置A、画像データコントロール部B、画像処理装置CおよびプリンタヘッドEは、図1のものとほぼ同様の構成であり、上記印刷出力制御部Dは、印刷工程において、上記画像処理装置Cが内蔵の画像データ辞書とのパターン照合を行ない、上記入力画像データaから画像全体における形状や色特性を判別し、正常な画像出力を禁止する特定原稿であると判定した場合、画像複写禁止判定bにもとづき、プリンタヘッドEによる印刷物に対する印刷濃度を順次薄くして、偽造印刷物の複製を防止する。

【0018】実施例3：図7はこの発明による画像出力装置の実施例を示すブロック図である。同図において、Aは画像入力装置、Bは画像データコントロール部、Cは画像処理装置、Dは印刷出力制御部、Eはプリンタヘッド、Nは画像データ記憶装置、Pは遅延装置である。

【0019】上記画像入力装置A、画像データコントロール部B、画像処理装置CおよびプリンタヘッドEは、図1のものとほぼ同様の構成であり、上記印刷出力制御部Dは、印刷工程において、上記画像処理装置Cからの画像複写禁止判定bにもとづき、タイマなどの遅延装置Pで印刷物に対する印刷タイミングを遅らせて、上記画像データ記憶装置Nからの見本やその他警報文などの文字画像データcを図8で示すような画像データ切換機能による出力でもって、プリンタヘッドEで印刷物に「見本」、その他の警報文字を追加印刷して、偽造印刷物の複製を防止する。

【0020】実施例4：図9はこの発明による画像出力装置の実施例を示すブロック図である。同図において、Aは画像入力装置、Bは画像データコントロール部、Cは画像処理装置、Dは印刷出力制御部、Eはプリンタヘッド、Nは画像データ記憶装置、Pは遅延装置、Qは紙搬送ローラである。

【0021】上記画像入力装置A、画像データコントロール部B、画像処理装置CおよびプリンタヘッドEは、図1のものとほぼ同様の構成であり、上記印刷出力制御部Dは、印刷工程において、上記画像処理装置Cからの画像複写禁止判定bにもとづき、タイマなどの遅延装置Pで印刷物に対する印刷タイミングを遅らせて、上記画像データ記憶装置Nからの塗りつぶし用画像データcを図10で示すような画像データ切換機能による出力でもって、プリンタヘッドEで印刷物を塗りつぶし印刷して、偽造印刷物の複製を防止する。このとき、紙搬送口

ーラQで印刷物をたとえば数cmないし十数cm逆走させたのち順走させて、上記プリンタヘッドEで印刷物の塗りつぶし印刷を行なう。

【0022】実施例5：図11はこの発明による画像出力装置の実施例を示すブロック図である。同図において、Aは画像入力装置、Bは画像データコントロール部、Cは画像処理装置、Dは印刷出力制御部、Eはプリンタヘッド、Nは画像データ記憶装置、Rは判定装置である。上記判定装置Rは画像複写禁止判定適合度に対するしきい値を2つ以上もたせておき、画像データ内のどの警告文を選択するかをその適合度によって決定する。たとえば、上記判定装置Rの内部に有するしきい値をb ( $a > b$ ) の2つとする。画像複写禁止判定適合度xが、 $x \geq a$  のとき、警告文1を選択する。画像複写禁止判定適合度xが、 $a > x \geq b$  のとき、警告文2を選択する。また、上記判定装置Rが印刷出力制御部Dへ出力する際の画像複写禁止判定適合度xは $x \geq b$ で、このとき、複写禁止とする

また、上記判定装置Rは遅延装置を有し、所定の遅延時間後に上記印刷動作を達成する。

【0023】実施例6：図12はこの発明による画像出力装置の実施例を示すブロック図である。同図において、Aは画像入力装置、Bは画像データコントロール部、Cは画像処理装置、Dは印刷出力制御部、Eはプリンタヘッド、Nは画像データ記憶装置、Rは判定装置、Sは画像記憶装置、Tは比較装置である。上記画像入力装置Aからの画像データaを画像データコントロール部Bで処理し、得られた画像データ(YMCのビットイメージ)を画像処理装置Cおよび画像記憶装置Sに入力する。上記画像記憶装置Sは、YMCのビットイメージで数枚程度の容量をもち、この記憶装置のメモリを1枚分のビットイメージを1レイヤ(記憶領域)として区切り、上記判定装置Rによりいずれのレイヤに記憶するかを選択することができる。初期状態でのレイヤや0であり、上記判定装置Rが印刷禁止と認識するまで0レイヤに固定される。

【0024】上記画像処理装置Cにより得れた複写禁止判定を上記判定装置Rに転送し、最初に上記判定装置Rで複写禁止と判定した場合、画像データの入力後、画像処理装置Cのレイヤ0の画像データを保持するために、記憶するレイヤを1に変更する。これは、レイヤ0には偽造判定された画像データが保持されおり、レイヤ0への上記きを防止するためである。初めて複写禁止と判定したあとの画像データから、現画像データと画像記憶装置Sのレイヤ0との画像データが一致しているか否かを比較装置Tで確認する。確認レイヤは、レイヤ0の画像を基準として画像先頭データから複写禁止物印刷エリアの5分の1位までのデータとする。複写禁止物の印刷エリアを特定する方法は、複写禁止を判定した位置、角度データより上記画像処理装置Cで演算させることによ

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り、複写禁止物の4角を容易に特定することができる。

【0025】現画像データとレイヤ0の画像データが比較装置Tで一致していると確認された場合、比較装置T、判定装置Rおよび印刷出力制御部Dへ複写禁止判定したことを伝達する。上記印刷出力制御部Dに図13で示すような画像データ切換機能を設け、その出力でもって、プリンタヘッドEへ出力する画像データを切り換える。また、前述した状態で上記画像処理装置Cが複写禁止判定し、かつ比較装置Tの確認が画像データ不一致と判定した場合、レイヤ1に画像データを保持するようにし、その後の入力画像とレイヤ0、1と一致しているか否かを確認するようにする。

【0026】

【発明の効果】以上のように、この発明装置によれば、入力画像データの真偽を判別して、特定画像の複製や違法電送を防止することができる。この発明方法によれば、入力画像データの真偽を判別して、特定画像の複製や違法電送を防止することができる。また、この発明に係るプリンタによれば、たとえば紙幣や有価証券などの複製を有効に防止することができる。さらに、この発明に係るファクシミリによれば、たとえば機密書類などの特定原稿の違法電送を有効に防止することができる。

【図面の簡単な説明】

【図1】この発明による画像出力装置の実施例1を示すブロック回路図である。

【図2】この発明による画像出力装置の一例を示す概略的な側面図である。

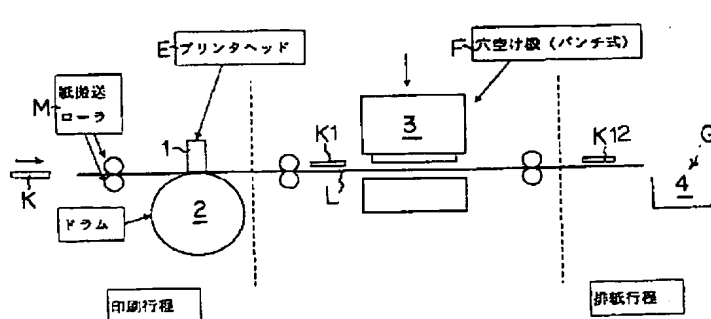
【図3】この発明による画像出力装置の他の例を示す概略的な側面図である。

【図4】この発明による画像出力装置の他の例を示す概略的な側面図である。

【図5】この発明による画像出力装置の他の例を示す概略的な側面図である。

【図6】この発明による画像出力装置の実施例2を示すブロック回路図である。

【図2】



【図7】この発明による画像出力装置の実施例3を示すブロック回路図である。

【図8】この発明による画像出力装置の要部を示す回路図である。

【図9】この発明による画像出力装置の実施例4を示すブロック回路図である。

【図10】この発明による画像出力装置の要部を示す回路図である。

【図11】この発明による画像出力装置の実施例5を示すブロック回路図である。

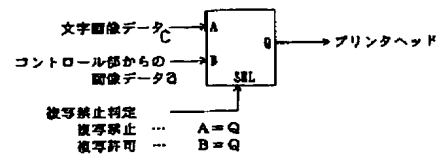
【図12】この発明による画像出力装置の実施例6を示すブロック回路図である。

【図13】この発明による画像出力装置の要部を示す回路図である。

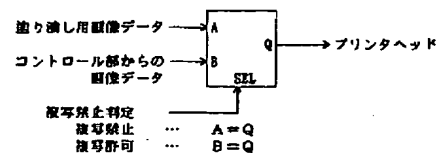
【符号の説明】

- A 画像入力装置
- B 画像データコントロール部
- C 画像処理装置
- D 印刷出力制御部
- E プリンタヘッド
- F 印刷物加工部
- G 廃紙部
- H 印刷工程
- N 画像データ記憶装置
- P 遅延装置
- Q 紙搬送ローラ
- R 判定装置
- S 画像記憶装置
- T 比較装置
- 4 せん孔機
- 5 印判機
- 8 ヒートローラ
- a 画像データ
- b 画像複写禁止判定

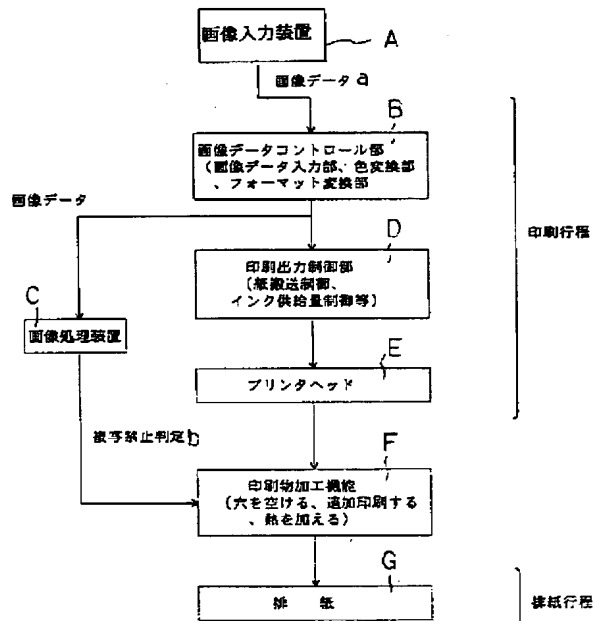
【図8】



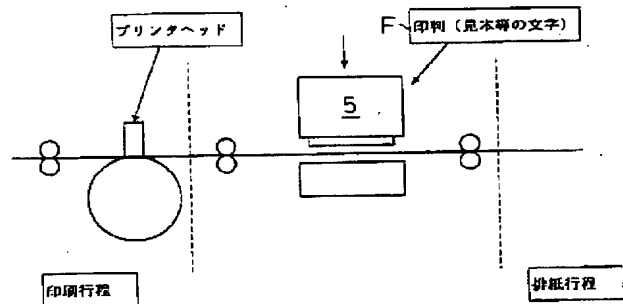
【図10】



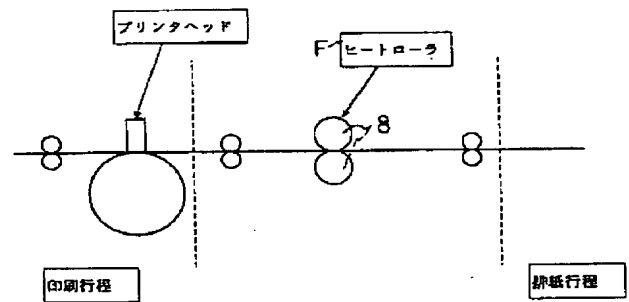
【図 1】



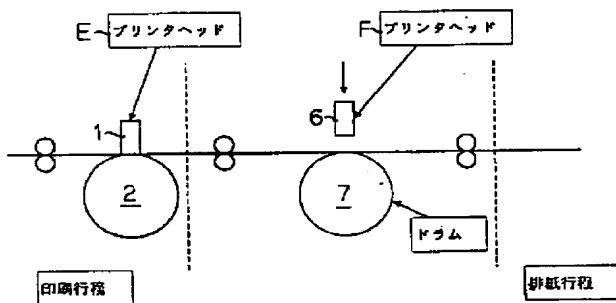
【図 3】



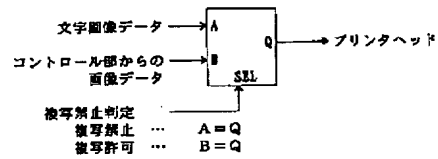
【図 5】



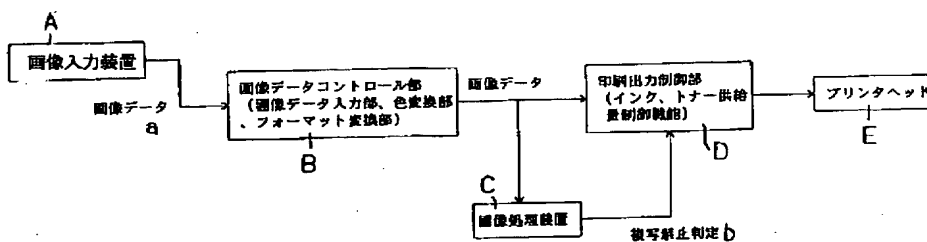
【図 4】



【図 13】



【図 6】



```

graph LR
    Input[画像データ] --> A[画像データ入力部、色変換部、フォーマット変換部]
    A --> B[画像データコントロール部]
    B --> N[画像データ記憶装置]
    B --> D[印刷出力制御部]
    B --> C[画像データ]
    C --> Thermal[画像処理装置]
    Thermal --> P[温度装置]
    P --> D
    D --> E[プリンタヘッド]
    Thermal --> D
    Thermal --> Stop[複写禁止判定]
    Stop --> Thermal
  
```

```

graph LR
    A[A: 画像入力装置] -- "画像データ" --> B[B: 画像データコントロール部  
(画像データ入力部、色変換部、  
フォーマット変換部)]
    B -- "画像データ a" --> C[C: 画像処理装置]
    C -- "画像データ b" --> D[D: 印刷出力制御部  
(画像データ切換機能)]
    D -- "画像データ c" --> B
    D -- "画像データ d" --> F[F: 紙搬送ローラ]
    D -- "画像データ" --> E[E: プリンタヘッド]
    C -- "遅延装置 (タイマ等) P" --> D
    C -- "複写禁止判定 b" --> P
    B -- "紙搬送ローラ制御信号 N" --> F
    D -- "紙搬送ローラ制御信号 Q" --> F
  
```

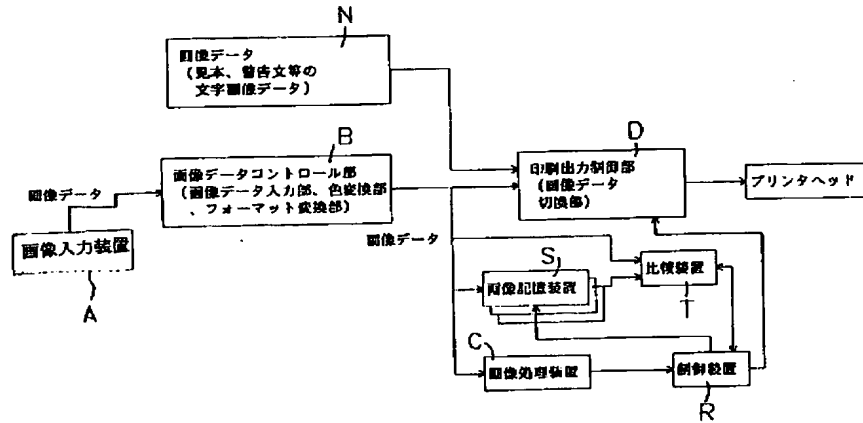
```

graph LR
    A[A: 画像入力装置] -- 画像データ --> B[B: 画像データコントロール部]
    B -- 画像データ --> C[C: 画像処理装置]
    C -- 画像データ --> D[D: 印刷出力制御部]
    D -- 画像データ --> E[E: プリントヘッド]
    D -- 書き禁止判定 --> R[R: 処理装置]
    R -- 遅延検出も含む --> C
    N[N: 画像データ記憶装置] -- 書き文切換信号 --> B
    
```

Figure 1 is a block diagram of a printing system. It includes the following components and connections:

- A: 画像入力装置 (Image Input Device)**: Provides **画像データ (Image Data)** to the control unit.
- B: 画像データコントロール部 (Image Data Control Unit)**: Contains sub-components for input, color conversion, and format conversion. It receives image data from A and sends it to the processing unit.
- C: 画像処理装置 (Image Processing Unit)**: Receives image data from B and sends it to the output control unit.
- D: 印刷出力制御部 (印刷データ切換機能) (Print Output Control Unit with Print Data Switching Function)**: Receives image data from C and sends it to the print head. It also outputs a **書き禁止判定 (Writing Prohibition Determination)** signal to the processing unit.
- E: プリントヘッド (Print Head)**: Receives image data from the output control unit to perform printing.
- N: 画像データ記憶装置 (画像文1、2...の文字画像データ) (Image Data Storage Device)**: Stores image data and provides a **書き文切換信号 (Writing Switching Signal)** to the control unit.
- R: 処理装置 (遅延検出も含む) (Processing Unit)**: Receives the writing prohibition determination signal from the output control unit and provides feedback to the processing unit.

【図12】



フロントページの続き

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## CLAIMS

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[Claim(s)]

[Claim 1] The image output unit which is an image output unit which forbids the output of a specific image pattern, and is characterized by having the means for which a normal image output is forbidden.

[Claim 2] The image output unit according to claim 1 characterized by having the puncher stage which punches output paper.

[Claim 3] The image output unit according to claim 1 characterized by having the printing means which carries out additional printing on output paper.

[Claim 4] The image output unit according to claim 1 characterized by having a heating means to heat a thermal paper.

[Claim 5] The image output unit according to claim 1 characterized by having the printing means which makes printing concentration to output paper thin one by one.

[Claim 6] The image output unit according to claim 3 or 5 characterized by having a printing means to add alarm printing to additional printing.

[Claim 7] The image output unit according to claim 6 characterized by having a printing means to print two or more sorts of alarms.

[Claim 8] The image output method which is an image output method which forbids the output of a specific image pattern, and is characterized by having the prohibition process of a normal image output.

[Claim 9] The image output method according to claim 8 characterized by having the process which punches output paper between delivery processes from presswork.

[Claim 10] The image output method according to claim 8 characterized by having the presswork which carries out additional printing on output paper between delivery processes from presswork.

[Claim 11] The image output method according to claim 8 characterized

by having the heating process which heats a thermal paper between delivery processes from presswork.

[Claim 12] The image output method according to claim 8 characterized by having the presswork which makes printing concentration to output paper thin one by one between delivery processes from presswork.

[Claim 13] The image output method according to claim 10 or 12 characterized by having the presswork which adds alarm printing to additional printing irregularly.

[Claim 14] The image output method according to claim 13 characterized by having the presswork which prints two or more sorts of alarms.

[Claim 15] The printer characterized by providing an image output unit according to claim 1 to 5.

[Claim 16] Facsimile characterized by providing an image output unit according to claim 1 to 5.

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[Translation done.]

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to an image output unit with the truth judging function to prevent the specific duplicate and illegal electrical transmission of the bill with which forgery and external leakage are forbidden, negotiable securities, a confidential document, etc. of a manuscript image, an approach, and its application equipment.

[0002]

[Description of the Prior Art] Conventionally, what detects the image data of a specific manuscript, is going to compare and carry out pattern matching of the identity and the similar degree with an image data dictionary which were registered beforehand, is going to judge the truth of a specific manuscript with distinction equipment as this kind of an image output unit, and is going to prevent forgery and illegal electrical transmission is known (refer to a publication-number 2 No. -210591 official report and a publication-number 4 No. -227365 official report).

[0003]

[Problem(s) to be Solved by the Invention] By the way, while the above-mentioned distinction equipment carries out pattern matching of the full color multiple-value image data The image data which also makes a color component and color distribution a criterion and is outputted with false gradation or false medium gradation from image formation equipments, such as a printer, And since these cannot be distinguished to the image data outputted by changing multiple-value image data into false gradation or false medium gradation as it is also with image output units, such as a personal computer, there is a possibility of permitting the duplicate and illegal electrical transmission of a specific image.

[0004] Therefore, one object of this invention aims at offering the image

output unit which can prevent the duplicate and illegal electrical transmission of a specific image. Other objects of this invention aim at offering the image-processing approach that the duplicate and illegal electrical transmission of a specific image can be prevented. The object of further others of this invention aims at offering application equipments with which the image output unit and approach of distinguishing the truth of the image data formed into false gradation were applied, such as a printer and facsimile. Furthermore, other objects of this invention are explained in full detail in the example mentioned later.

[0005]

[Means for Solving the Problem] Invention of claim 1 is an image output unit which forbids the output of a specific image pattern, and is characterized by having the means for which a normal image output is forbidden. The image output unit by invention of claim 2 is characterized by having the puncher stage which punches output paper. The image output unit by invention of claim 3 is characterized by having the printing means which carries out additional printing on output paper. The image output unit by invention of claim 4 is characterized by having a heating means to heat a thermal paper.

[0006] The image output unit by invention of claim 5 is characterized by having the printing means which makes printing concentration to output paper thin one by one. The image output unit by invention of claim 6 is characterized by having a printing means to add alarm printing to additional printing. The image output unit by invention of claim 7 is characterized by having a printing means to print two or more sorts of alarms.

[0007] Invention of claim 8 is an image output method which forbids the output of a specific image pattern, and is characterized by having the prohibition process of a normal image output. The image output method by invention of claim 9 is characterized by having the process which punches output paper between delivery processes from presswork. The image output method by invention of claim 10 is characterized by having the presswork which carries out additional printing on output paper between delivery processes from presswork. The image output method by invention of claim 11 is characterized by having the heating process which heats a thermal paper between delivery processes from presswork.

[0008] The image output method by invention of claim 12 is characterized by having the presswork which makes printing

concentration to output paper thin one by one between delivery processes from presswork. The image output method by invention of claim 13 is characterized by having the presswork which adds alarm printing to additional printing irregularly. The image output method by invention of claim 14 is characterized by having the presswork which prints two or more sorts of alarms. The printer by invention of claim 15 is characterized by providing an image output unit according to claim 1 to 5. Facsimile by invention of claim 16 is characterized by providing an image output unit according to claim 1 to 5.

[0009]

[Function] According to this invention \*\*\*\* equipment and approach, the duplicate and illegal electrical transmission of a specific image can be effectively prevented by setting, by the time it detects prohibition of the output of a specific image pattern, and having the means and process at which a normal image output is forbidden, even if it is the case where image outputs, such as normal alphabetic printing, are already started. the above -- as a prohibition means of a normal image output, they are the puncher stage which punches output paper, the printing means which carries out additional printing at output paper, a heating means heat a thermal paper, the printing means which makes printing concentration to output paper thin one by one, a printing means add alarm printing to additional printing, a printing means print two or more sorts of alarms, etc.

[0010] the above -- as a prohibition process of a normal image output, they are the process which punches output paper between delivery processes from presswork, the presswork which carries out additional printing, the heating process which heats a thermal paper, the presswork which make printing concentration to output paper thin one by one, the presswork which add alarm printing to additional printing irregularly, the presswork which print two or more sorts of alarms. According to the printer concerning this invention, the duplicate of a bill, negotiable securities, etc. can be prevented effectively, for example. According to the facsimile concerning this invention, illegal electrical transmission of specific manuscripts, such as a confidential document, can be prevented effectively, for example.

[0011]

[Example]

The example of this invention is explained according to a drawing below Example 1: Drawing 1 is the block diagram showing an example of the image output unit by this invention. this drawing -- setting -- A -- for

an image processing system and D, a printout control section and E are [ a picture input device and B / the image data control section and C / a print processing function part and G of a printer head and F ] the refuse paper sections.

[0012] The above-mentioned picture input device A outputs the image data of for example, false gradation or high gradation, and the image data control section B is the image data input section, a color converter, and FUO. It has a mat converter and outputs to an image processing system C and the printout control section D in response to image data a from the above-mentioned picture input device A. Reproducing faithfully the configuration and color tone of for example, a full color multiple-value image for image data a from the above-mentioned picture input device A as the carrier beam image data control section B is also for control of the printer head E, it is constituted so that sequential execution of the normal printing may be carried out. On the other hand, the above-mentioned image processing system C is the configuration of making the normal printing actuation in the above-mentioned presswork H carrying out, irrespective of the truth judging of the above-mentioned image data a while always distinguishing the truth of the above-mentioned input image data a by pattern matching with the built-in image data dictionary. In the above-mentioned presswork H, an image processing system C performs pattern matching with a built-in image data dictionary. When judged with it being the specific manuscript which distinguishes the configuration and color property in the whole image from above-mentioned input image data a, and forbids a normal image output, based on the image copy prohibition judging b, in the print processing section F in a printing prohibition process Predetermined processing is added to the print under printing, and disposal of the print is carried out in the refuse paper section in a refuse paper process.

[0013] Drawing 2 is the rough side elevation showing an example of the image output unit by this invention. As shown in this drawing, the roller set M, the printer head E, the print processing section F, and the refuse paper section G are arranged along the conveyance line L of Manuscript M, respectively. The above-mentioned printer head E is constituted so that it may become the printer head 1 and this from the drum 2 by which opposite arrangement was carried out and normal printing of the full color multiple-value image mentioned above in the print K-ed which is in a conveyance process along the conveyance line L by the roller set M may be made. Moreover, the above-mentioned print processing section F arranges in the latter part of the above-mentioned printer

head E the keypunch 4 which gives a perforation to the print K1 which is the output paper printed by the print K-ed, and consists of above-mentioned printer heads E.

[0014] The above-mentioned printer head E has image data a from a picture input device A by control of the carrier beam image data control section B on the printer head 1 and a drum 2 now. For example, reproducing faithfully the configuration and color tone of a full color multiple-value image, normal printing is performed to the print K-ed, for example, a blank paper, and it sets in the duplicate process of a print K1. The truth of the above-mentioned input image data a is distinguished by pattern matching with the image data dictionary in which the above-mentioned image processing system C was built. When it judges with it being the prohibition manuscript of a normal image output, it is based on the copy prohibition judging b ( drawing 1 ). A perforation is given to the above-mentioned print K1 as it is also with the keypunch 4 in the printing prohibition process I, and it is stored by the trash receptacle 4 and made [ in / for this print K12 by which punch processing was carried out / the latter abolition process J ] disposal in the abolition section G.

[0015] The stamp machine 5 ( drawing 3 ) which carries out additional printing at the print K1 with which the above-mentioned print processing section F was printed by the print K-ed with the printer head E, You may be the printer head 6, a drum 7 ( drawing 4 R> 4), and heating rollers 8 and 8 ( drawing 5 ). The thermal paper which carries out additional printing of the alphabetic characters, such as a "sample", at the above-mentioned print K1, or passes heating rollers 8 and 8 is heated on the above-mentioned stamp machine 5, and the printer head 6 and a drum 7, a forged print is made into disposal, and the duplicate is prevented.

[0016] Example 2: Drawing 6 is the block diagram showing other examples of the image output unit by this invention. For a picture input device and B, in this drawing, the image data control section and C are [ A / a printout control section and E of an image processing system and D ] printer heads.

[0017] The above-mentioned picture input device A, the image data control section B, an image processing system C, and the printer head E It is the almost same configuration as the thing of drawing 1 . The above-mentioned printout control section D In presswork, the above-mentioned image processing system C performs pattern matching with a built-in image data dictionary. The configuration and color property in the whole image are distinguished from above-mentioned input image

data a, when it judges with it being the specific manuscript which forbids a normal image output, based on the image copy prohibition judging b, printing concentration to the print by the printer head E is made thin one by one, and the duplicate of a forged print is prevented.

[0018] Example 3: Drawing 7 is the block diagram showing the example of the image output unit by this invention. this drawing -- setting -- A -- for an image processing system and D, a printout control section and E are [ a picture input device and B / the image data control section and C / image data storage and P of a printer head and N ] delay units.

[0019] The above-mentioned picture input device A, the image data control section B, an image processing system C, and the printer head E It is the almost same configuration as the thing of drawing 1 . The above-mentioned printout control section D In presswork, it is based on the image copy prohibition judging b from the above-mentioned image processing system C. The printing timing to a print is delayed by the delay units P, such as a timer. Additional printing of a "sample" and the other alarm statement characters is carried out to it being also by the output by the sample and the image data change-over function in which alphabetic character image data c, such as an alarm statement, is shown by drawing 8 in addition to this from the above-mentioned image data storage N with the printer head E at a print, and the duplicate of a forged print is prevented.

[0020] Example 4: Drawing 9 is the block diagram showing the example of the image output unit by this invention. this drawing -- setting -- A -- a picture input device and B -- for a printout control section and E, a printer head and N are [ the image data control section and C / an image processing system and D / a delay unit and Q of image data storage and P ] paper conveyance rollers.

[0021] The above-mentioned picture input device A, the image data control section B, an image processing system C, and the printer head E It is the almost same configuration as the thing of drawing 1 . The above-mentioned printout control section D In presswork, it is based on the image copy prohibition judging b from the above-mentioned image processing system C. The printing timing to a print is delayed by the delay units P, such as a timer. Continuous tone printing of the print is carried out to it being also by the output by the image data change-over function in which image data c for continuous tone from the above-mentioned image data storage N is shown by drawing 10 with the printer head E, and the duplicate of a forged print is prevented. this time -- the paper conveyance roller Q -- a print -- for example, several cm -- or it

was made to drive backward about ten cm -- after scudding is carried out and continuous tone printing of a print is performed with the above-mentioned printer head E.

[0022] Example 5: Drawing 11 is the block diagram showing the example of the image output unit by this invention. this drawing -- setting -- A -- for an image processing system and D, a printout control section and E are [ a picture input device and B / the image data control section and C / image data storage and R of a printer head and N ] judgment equipment. The goodness of fit determines which warning sentence in image data the above-mentioned judgment equipment R chooses by giving two or more thresholds to an image copy prohibition judging goodness of fit. For example, the threshold which it has inside the above-mentioned judgment equipment R is made into two of b ( $a > b$ ). The image copy prohibition judging goodness of fit x chooses the warning sentence 1 at the time of  $x \geq a$ . The image copy prohibition judging goodness of fit x chooses the warning sentence 2 at the time of  $a > x \geq b$ . Moreover, the image copy prohibition judging goodness of fit x at the time of the above-mentioned judgment equipment R outputting to the printout control section D is  $x \geq b$ , and moreover it considers as the prohibition on a copy at this time, the above-mentioned judgment equipment R has a delay unit, and attains the above-mentioned printing actuation after a predetermined time delay.

[0023] Example 6: Drawing 12 is the block diagram showing the example of the image output unit by this invention. this drawing -- setting -- A -- a picture input device and B -- the image data control section and C -- for a printer head and N, image data storage and R are [ an image processing system and D / a printout control section and E / image storage and T of judgment equipment and S ] comparison equipment. Image data a from the above-mentioned picture input device A is processed in the image data control section B, and the obtained image data (bit image of YMC) is inputted into an image processing system C and the image storage S. The above-mentioned image store S can have the capacity of about several sheets by the bit image of YMC, and it can choose whether the bit image for one sheet is memorized for the memory of this store to which layer with a break and the above-mentioned judgment equipment R as one layer (storage region). It is a layer in an initial state, and 0, and it is fixed to zero layer until the above-mentioned judgment equipment R recognizes it as prohibition of printing.

[0024] When a \*\*\*\*\* copy prohibition judging is transmitted to the

above-mentioned judgment equipment R with the above-mentioned image processing system C and it judges with the prohibition on a copy with the above-mentioned judgment equipment R first, in order to hold the image data of the layer 0 of an image processing system C, the layer to memorize is changed into 1 after an image entry of data. This is for holding the image data by which the forged judging was carried out, getting down to a layer 0, and preventing \*\*\*\*\* to a layer 0. From the image data after judging with the prohibition on a copy for the first time, it checks whether the image data of the present image data and the layer 0 of the image store S is in agreement with comparison equipment T. A check layer is taken as the data from image initial data to the 1/5th place of copy prohibition object printing area on the basis of the image of a layer 0. The method of pinpointing the printing area of a copy prohibition object can specify four angles of a copy prohibition object easily by making it calculate with the above-mentioned image processing system C from the location and include-angle data which judged the prohibition on a copy.

[0025] When the present image data and the image data of a layer 0 were in agreement with comparison equipment T and it is checked, it transmits having carried out the copy prohibition judging to comparison equipment T, judgment equipment R, and the printout control section D. An image data change-over function as shown in the above-mentioned printout control section D by drawing 13 is prepared, and the image data outputted to the printer head E as it is also by the output is switched. Moreover, when the above-mentioned image processing system C carries out a copy prohibition judging in the condition of having mentioned above and the check of comparison equipment T judges with an image data inequality, image data is held to a layer 1 and it checks whether it is in agreement with a subsequent input image and layers 0 and 1.

[0026]

[Effect of the Invention] As mentioned above, according to this invention equipment, the truth of input image data can be distinguished and the duplicate and illegal electrical transmission of a specific image can be prevented. According to this invention approach, the truth of input image data can be distinguished and the duplicate and illegal electrical transmission of a specific image can be prevented. Moreover, according to the printer concerning this invention, the duplicate of a bill, negotiable securities, etc. can be prevented effectively, for example. Furthermore, according to the facsimile concerning this invention, illegal electrical

transmission of specific manuscripts, such as a confidential document, can be prevented effectively, for example.

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**TECHNICAL FIELD**

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[Industrial Application] This invention relates to an image output unit with the truth judging function to prevent the specific duplicate and illegal electrical transmission of the bill with which forgery and external leakage are forbidden, negotiable securities, a confidential document, etc. of a manuscript image, an approach, and its application equipment.

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PRIOR ART

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[Description of the Prior Art] Conventionally, what detects the image data of a specific manuscript, is going to compare and carry out pattern matching of the identity and the similar degree with an image data dictionary which were registered beforehand, is going to judge the truth of a specific manuscript with distinction equipment as this kind of an image output unit, and is going to prevent forgery and illegal electrical transmission is known (refer to a publication-number 2 No. -210591 official report and a publication-number 4 No. -227365 official report).

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**EFFECT OF THE INVENTION**

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[Effect of the Invention] As mentioned above, according to this invention equipment, the truth of input image data can be distinguished and the duplicate and illegal electrical transmission of a specific image can be prevented. According to this invention approach, the truth of input image data can be distinguished and the duplicate and illegal electrical transmission of a specific image can be prevented. Moreover, according to the printer concerning this invention, the duplicate of a bill, negotiable securities, etc. can be prevented effectively, for example. Furthermore, according to the facsimile concerning this invention, illegal electrical transmission of specific manuscripts, such as a confidential document, can be prevented effectively, for example.

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## TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] By the way, while the above-mentioned distinction equipment carries out pattern matching of the full color multiple-value image data The image data which also makes a color component and color distribution a criterion and is outputted with false gradation or false medium gradation from image formation equipments, such as a printer, And since these cannot be distinguished to the image data outputted by changing multiple-value image data into false gradation or false medium gradation as it is also with image output units, such as a personal computer, there is a possibility of permitting the duplicate and illegal electrical transmission of a specific image.

[0004] Therefore, one object of this invention aims at offering the image output unit which can prevent the duplicate and illegal electrical transmission of a specific image. Other objects of this invention aim at offering the image-processing approach that the duplicate and illegal electrical transmission of a specific image can be prevented. The object of further others of this invention aims at offering application equipments with which the image output unit and approach of distinguishing the truth of the image data formed into false gradation were applied, such as a printer and facsimile. Furthermore, other objects of this invention are explained in full detail in the example mentioned later.

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## MEANS

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[Means for Solving the Problem] Invention of claim 1 is an image output unit which forbids the output of a specific image pattern, and is characterized by having the means for which a normal image output is forbidden. The image output unit by invention of claim 2 is characterized by having the puncher stage which punches output paper. The image output unit by invention of claim 3 is characterized by having the printing means which carries out additional printing on output paper. The image output unit by invention of claim 4 is characterized by having a heating means to heat a thermal paper.

[0006] The image output unit by invention of claim 5 is characterized by having the printing means which makes printing concentration to output paper thin one by one. The image output unit by invention of claim 6 is characterized by having a printing means to add alarm printing to additional printing. The image output unit by invention of claim 7 is characterized by having a printing means to print two or more sorts of alarms.

[0007] Invention of claim 8 is an image output method which forbids the output of a specific image pattern, and is characterized by having the prohibition process of a normal image output. The image output method by invention of claim 9 is characterized by having the process which punches output paper between delivery processes from presswork. The image output method by invention of claim 10 is characterized by having the presswork which carries out additional printing on output paper between delivery processes from presswork. The image output method by invention of claim 11 is characterized by having the heating process which heats a thermal paper between delivery processes from presswork.

[0008] The image output method by invention of claim 12 is

characterized by having the presswork which makes printing concentration to output paper thin one by one between delivery processes from presswork. The image output method by invention of claim 13 is characterized by having the presswork which adds alarm printing to additional printing irregularly. The image output method by invention of claim 14 is characterized by having the presswork which prints two or more sorts of alarms. The printer by invention of claim 15 is characterized by providing an image output unit according to claim 1 to 5. Facsimile by invention of claim 16 is characterized by providing an image output unit according to claim 1 to 5.

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## OPERATION

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[Function] According to this invention \*\*\*\* equipment and approach, the duplicate and illegal electrical transmission of a specific image can be effectively prevented by setting, by the time it detects prohibition of the output of a specific image pattern, and having the means and process at which a normal image output is forbidden, even if it is the case where image outputs, such as normal alphabetic printing, are already started. the above -- as a prohibition means of a normal image output, they are the puncher stage which punches output paper, the printing means which carries out additional printing at output paper, a heating means heat a thermal paper, the printing means which makes printing concentration to output paper thin one by one, a printing means add alarm printing to additional printing, a printing means print two or more sorts of alarms, etc.

[0010] the above -- as a prohibition process of a normal image output, they are the process which punches output paper between delivery processes from presswork, the presswork which carries out additional printing, the heating process which heats a thermal paper, the presswork which make printing concentration to output paper thin one by one, the presswork which add alarm printing to additional printing irregularly, the presswork which print two or more sorts of alarms. According to the printer concerning this invention, the duplicate of a bill, negotiable securities, etc. can be prevented effectively, for example. According to the facsimile concerning this invention, illegal electrical transmission of specific manuscripts, such as a confidential document, can be prevented effectively, for example.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to an image output unit with the truth judging function to prevent the specific duplicate and illegal electrical transmission of the bill with which forgery and external leakage are forbidden, negotiable securities, a confidential document, etc. of a manuscript image, an approach, and its application equipment.

[0002]

[Description of the Prior Art] Conventionally, what detects the image data of a specific manuscript, is going to compare and carry out pattern matching of the identity and the similar degree with an image data dictionary which were registered beforehand, is going to judge the truth of a specific manuscript with distinction equipment as this kind of an image output unit, and is going to prevent forgery and illegal electrical transmission is known (refer to a publication-number 2 No. -210591 official report and a publication-number 4 No. -227365 official report).

[0003]

[Problem(s) to be Solved by the Invention] By the way, while the above-mentioned distinction equipment carries out pattern matching of the full color multiple-value image data The image data which also makes a color component and color distribution a criterion and is outputted with false gradation or false medium gradation from image formation equipments, such as a printer, And since these cannot be distinguished to the image data outputted by changing multiple-value image data into false gradation or false medium gradation as it is also with image output units, such as a personal computer, there is a possibility of permitting the duplicate and illegal electrical transmission of a specific image.

[0004] Therefore, one object of this invention aims at offering the image

output unit which can prevent the duplicate and illegal electrical transmission of a specific image. Other objects of this invention aim at offering the image-processing approach that the duplicate and illegal electrical transmission of a specific image can be prevented. The object of further others of this invention aims at offering application equipments with which the image output unit and approach of distinguishing the truth of the image data formed into false gradation were applied, such as a printer and facsimile. Furthermore, other objects of this invention are explained in full detail in the example mentioned later.

[0005]

[Means for Solving the Problem] Invention of claim 1 is an image output unit which forbids the output of a specific image pattern, and is characterized by having the means for which a normal image output is forbidden. The image output unit by invention of claim 2 is characterized by having the puncher stage which punches output paper. The image output unit by invention of claim 3 is characterized by having the printing means which carries out additional printing on output paper. The image output unit by invention of claim 4 is characterized by having a heating means to heat a thermal paper.

[0006] The image output unit by invention of claim 5 is characterized by having the printing means which makes printing concentration to output paper thin one by one. The image output unit by invention of claim 6 is characterized by having a printing means to add alarm printing to additional printing. The image output unit by invention of claim 7 is characterized by having a printing means to print two or more sorts of alarms.

[0007] Invention of claim 8 is an image output method which forbids the output of a specific image pattern, and is characterized by having the prohibition process of a normal image output. The image output method by invention of claim 9 is characterized by having the process which punches output paper between delivery processes from presswork. The image output method by invention of claim 10 is characterized by having the presswork which carries out additional printing on output paper between delivery processes from presswork. The image output method by invention of claim 11 is characterized by having the heating process which heats a thermal paper between delivery processes from presswork.

[0008] The image output method by invention of claim 12 is characterized by having the presswork which makes printing

concentration to output paper thin one by one between delivery processes from presswork. The image output method by invention of claim 13 is characterized by having the presswork which adds alarm printing to additional printing irregularly. The image output method by invention of claim 14 is characterized by having the presswork which prints two or more sorts of alarms. The printer by invention of claim 15 is characterized by providing an image output unit according to claim 1 to 5. Facsimile by invention of claim 16 is characterized by providing an image output unit according to claim 1 to 5.

[0009]

[Function] According to this invention \*\*\*\* equipment and approach, the duplicate and illegal electrical transmission of a specific image can be effectively prevented by setting, by the time it detects prohibition of the output of a specific image pattern, and having the means and process at which a normal image output is forbidden, even if it is the case where image outputs, such as normal alphabetic printing, are already started. the above -- as a prohibition means of a normal image output, they are the puncher stage which punches output paper, the printing means which carries out additional printing at output paper, a heating means heat a thermal paper, the printing means which makes printing concentration to output paper thin one by one, a printing means add alarm printing to additional printing, a printing means print two or more sorts of alarms, etc.

[0010] the above -- as a prohibition process of a normal image output, they are the process which punches output paper between delivery processes from presswork, the presswork which carries out additional printing, the heating process which heats a thermal paper, the presswork which make printing concentration to output paper thin one by one, the presswork which add alarm printing to additional printing irregularly, the presswork which print two or more sorts of alarms. According to the printer concerning this invention, the duplicate of a bill, negotiable securities, etc. can be prevented effectively, for example. According to the facsimile concerning this invention, illegal electrical transmission of specific manuscripts, such as a confidential document, can be prevented effectively, for example.

[0011]

[Example]

The example of this invention is explained according to a drawing below Example 1:. Drawing 1 is the block diagram showing an example of the image output unit by this invention. this drawing -- setting -- A -- for

an image processing system and D, a printout control section and E are [ a picture input device and B / the image data control section and C / a print processing function part and G of a printer head and F ] the refuse paper sections.

[0012] The above-mentioned picture input device A outputs the image data of for example, false gradation or high gradation, and the image data control section B is the image data input section, a color converter, and FUO. It has a mat converter and outputs to an image processing system C and the printout control section D in response to image data a from the above-mentioned picture input device A. Reproducing faithfully the configuration and color tone of for example, a full color multiple-value image for image data a from the above-mentioned picture input device A as the carrier beam image data control section B is also for control of the printer head E, it is constituted so that sequential execution of the normal printing may be carried out. On the other hand, the above-mentioned image processing system C is the configuration of making the normal printing actuation in the above-mentioned presswork H carrying out, irrespective of the truth judging of the above-mentioned image data a while always distinguishing the truth of the above-mentioned input image data a by pattern matching with the built-in image data dictionary. In the above-mentioned presswork H, an image processing system C performs pattern matching with a built-in image data dictionary. When judged with it being the specific manuscript which distinguishes the configuration and color property in the whole image from above-mentioned input image data a, and forbids a normal image output, based on the image copy prohibition judging b, in the print processing section F in a printing prohibition process Predetermined processing is added to the print under printing, and disposal of the print is carried out in the refuse paper section in a refuse paper process.

[0013] Drawing 2 is the rough side elevation showing an example of the image output unit by this invention. As shown in this drawing, the roller set M, the printer head E, the print processing section F, and the refuse paper section G are arranged along the conveyance line L of Manuscript M, respectively. The above-mentioned printer head E is constituted so that it may become the printer head 1 and this from the drum 2 by which opposite arrangement was carried out and normal printing of the full color multiple-value image mentioned above in the print K-ed which is in a conveyance process along the conveyance line L by the roller set M may be made. Moreover, the above-mentioned print processing section F arranges in the latter part of the above-mentioned printer

head E the keypunch 4 which gives a perforation to the print K1 which is the output paper printed by the print K-ed, and consists of above-mentioned printer heads E.

[0014] The above-mentioned printer head E has image data a from a picture input device A by control of the carrier beam image data control section B on the printer head 1 and a drum 2 now. For example, reproducing faithfully the configuration and color tone of a full color multiple-value image, normal printing is performed to the print K-ed, for example, a blank paper, and it sets in the duplicate process of a print K1. The truth of the above-mentioned input image data a is distinguished by pattern matching with the image data dictionary in which the above-mentioned image processing system C was built. When it judges with it being the prohibition manuscript of a normal image output, it is based on the copy prohibition judging b ( drawing 1 ). A perforation is given to the above-mentioned print K1 as it is also with the keypunch 4 in the printing prohibition process I, and it is stored by the trash receptacle 4 and made [ in / for this print K12 by which punch processing was carried out / the latter abolition process J ] disposal in the abolition section G.

[0015] The stamp machine 5 ( drawing 3 ) which carries out additional printing at the print K1 with which the above-mentioned print processing section F was printed by the print K-ed with the printer head E, You may be the printer head 6, a drum 7 ( drawing 4 R> 4), and heating rollers 8 and 8 ( drawing 5 ). The thermal paper which carries out additional printing of the alphabetic characters, such as a "sample", at the above-mentioned print K1, or passes heating rollers 8 and 8 is heated on the above-mentioned stamp machine 5, and the printer head 6 and a drum 7, a forged print is made into disposal, and the duplicate is prevented.

[0016] Example 2: Drawing 6 is the block diagram showing other examples of the image output unit by this invention. For a picture input device and B, in this drawing, the image data control section and C are [ A / a printout control section and E of an image processing system and D ] printer heads.

[0017] The above-mentioned picture input device A, the image data control section B, an image processing system C, and the printer head E It is the almost same configuration as the thing of drawing 1 . The above-mentioned printout control section D In presswork, the above-mentioned image processing system C performs pattern matching with a built-in image data dictionary. The configuration and color property in the whole image are distinguished from above-mentioned input image

data a, when it judges with it being the specific manuscript which forbids a normal image output, based on the image copy prohibition judging b, printing concentration to the print by the printer head E is made thin one by one, and the duplicate of a forged print is prevented.

[0018] Example 3: Drawing 7 is the block diagram showing the example of the image output unit by this invention. this drawing -- setting -- A -- for an image processing system and D, a printout control section and E are [ a picture input device and B / the image data control section and C / image data storage and P of a printer head and N ] delay units.

[0019] The above-mentioned picture input device A, the image data control section B, an image processing system C, and the printer head E It is the almost same configuration as the thing of drawing 1 . The above-mentioned printout control section D In presswork, it is based on the image copy prohibition judging b from the above-mentioned image processing system C. The printing timing to a print is delayed by the delay units P, such as a timer. Additional printing of a "sample" and the other alarm statement characters is carried out to it being also by the output by the sample and the image data change-over function in which alphabetic character image data c, such as an alarm statement, is shown by drawing 8 in addition to this from the above-mentioned image data storage N with the printer head E at a print, and the duplicate of a forged print is prevented.

[0020] Example 4: Drawing 9 is the block diagram showing the example of the image output unit by this invention. this drawing -- setting -- A -- a picture input device and B -- for a printout control section and E, a printer head and N are [ the image data control section and C / an image processing system and D / a delay unit and Q of image data storage and P ] paper conveyance rollers.

[0021] The above-mentioned picture input device A, the image data control section B, an image processing system C, and the printer head E It is the almost same configuration as the thing of drawing 1 . The above-mentioned printout control section D In presswork, it is based on the image copy prohibition judging b from the above-mentioned image processing system C. The printing timing to a print is delayed by the delay units P, such as a timer. Continuous tone printing of the print is carried out to it being also by the output by the image data change-over function in which image data c for continuous tone from the above-mentioned image data storage N is shown by drawing 10 with the printer head E, and the duplicate of a forged print is prevented. this time -- the paper conveyance roller Q -- a print -- for example, several cm -- or it

was made to drive backward about ten cm -- after scudding is carried out and continuous tone printing of a print is performed with the above-mentioned printer head E.

[0022] Example 5: Drawing 11 is the block diagram showing the example of the image output unit by this invention. this drawing -- setting -- A -- for an image processing system and D, a printout control section and E are [ a picture input device and B / the image data control section and C / image data storage and R of a printer head and N ] judgment equipment. The goodness of fit determines which warning sentence in image data the above-mentioned judgment equipment R chooses by giving two or more thresholds to an image copy prohibition judging goodness of fit. For example, the threshold which it has inside the above-mentioned judgment equipment R is made into two of b ( $a > b$ ). The image copy prohibition judging goodness of fit x chooses the warning sentence 1 at the time of  $x \geq a$ . The image copy prohibition judging goodness of fit x chooses the warning sentence 2 at the time of  $a > x \geq b$ . Moreover, the image copy prohibition judging goodness of fit x at the time of the above-mentioned judgment equipment R outputting to the printout control section D is  $x \geq b$ , and moreover it considers as the prohibition on a copy at this time, the above-mentioned judgment equipment R has a delay unit, and attains the above-mentioned printing actuation after a predetermined time delay.

[0023] Example 6: Drawing 12 is the block diagram showing the example of the image output unit by this invention. this drawing -- setting -- A -- a picture input device and B -- the image data control section and C -- for a printer head and N, image data storage and R are [ an image processing system and D / a printout control section and E / image storage and T of judgment equipment and S ] comparison equipment. Image data a from the above-mentioned picture input device A is processed in the image data control section B, and the obtained image data (bit image of YMC) is inputted into an image processing system C and the image storage S. The above-mentioned image store S can have the capacity of about several sheets by the bit image of YMC, and it can choose whether the bit image for one sheet is memorized for the memory of this store to which layer with a break and the above-mentioned judgment equipment R as one layer (storage region). It is a layer in an initial state, and 0, and it is fixed to zero layer until the above-mentioned judgment equipment R recognizes it as prohibition of printing.

[0024] When a \*\*\*\*\* copy prohibition judging is transmitted to the

above-mentioned judgment equipment R with the above-mentioned image processing system C and it judges with the prohibition on a copy with the above-mentioned judgment equipment R first, in order to hold the image data of the layer 0 of an image processing system C, the layer to memorize is changed into 1 after an image entry of data. This is for holding the image data by which the forged judging was carried out, getting down to a layer 0, and preventing \*\*\*\*\* to a layer 0. From the image data after judging with the prohibition on a copy for the first time, it checks whether the image data of the present image data and the layer 0 of the image store S is in agreement with comparison equipment T. A check layer is taken as the data from image initial data to the 1/5th place of copy prohibition object printing area on the basis of the image of a layer 0. The method of pinpointing the printing area of a copy prohibition object can specify four angles of a copy prohibition object easily by making it calculate with the above-mentioned image processing system C from the location and include-angle data which judged the prohibition on a copy.

[0025] When the present image data and the image data of a layer 0 were in agreement with comparison equipment T and it is checked, it transmits having carried out the copy prohibition judging to comparison equipment T, judgment equipment R, and the printout control section D. An image data change-over function as shown in the above-mentioned printout control section D by drawing 13 is prepared, and the image data outputted to the printer head E as it is also by the output is switched. Moreover, when the above-mentioned image processing system C carries out a copy prohibition judging in the condition of having mentioned above and the check of comparison equipment T judges with an image data inequality, image data is held to a layer 1 and it checks whether it is in agreement with a subsequent input image and layers 0 and 1.

[0026]

[Effect of the Invention] As mentioned above, according to this invention equipment, the truth of input image data can be distinguished and the duplicate and illegal electrical transmission of a specific image can be prevented. According to this invention approach, the truth of input image data can be distinguished and the duplicate and illegal electrical transmission of a specific image can be prevented. Moreover, according to the printer concerning this invention, the duplicate of a bill, negotiable securities, etc. can be prevented effectively, for example. Furthermore, according to the facsimile concerning this invention, illegal electrical

transmission of specific manuscripts, such as a confidential document, can be prevented effectively, for example.

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[Translation done.]

## \* NOTICES \*

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the block circuit diagram showing the example 1 of the image output unit by this invention.

[Drawing 2] It is the rough side elevation showing an example of the image output unit by this invention.

[Drawing 3] It is the rough side elevation showing other examples of the image output unit by this invention.

[Drawing 4] It is the rough side elevation showing other examples of the image output unit by this invention.

[Drawing 5] It is the rough side elevation showing other examples of the image output unit by this invention.

[Drawing 6] It is the block circuit diagram showing the example 2 of the image output unit by this invention.

[Drawing 7] It is the block circuit diagram showing the example 3 of the image output unit by this invention.

[Drawing 8] It is the circuit diagram showing the important section of the image output unit by this invention.

[Drawing 9] It is the block circuit diagram showing the example 4 of the image output unit by this invention.

[Drawing 10] It is the circuit diagram showing the important section of the image output unit by this invention.

[Drawing 11] It is the block circuit diagram showing the example 5 of the image output unit by this invention.

[Drawing 12] It is the block circuit diagram showing the example 6 of the image output unit by this invention.

[Drawing 13] It is the circuit diagram showing the important section of the image output unit by this invention.

[Description of Notations]

A Picture input device  
B Image data control section  
C Image processing system  
D Printout control section  
E Printer head  
F Print processing section  
G Refuse paper section  
H Presswork  
N Image data storage  
P Delay unit  
Q Paper conveyance roller  
R Judgment equipment  
S Image storage  
T Comparison equipment  
4 Key punch  
5 Stamp Machine  
8 Heating Roller  
Image data  
b Image copy prohibition judging

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[Translation done.]